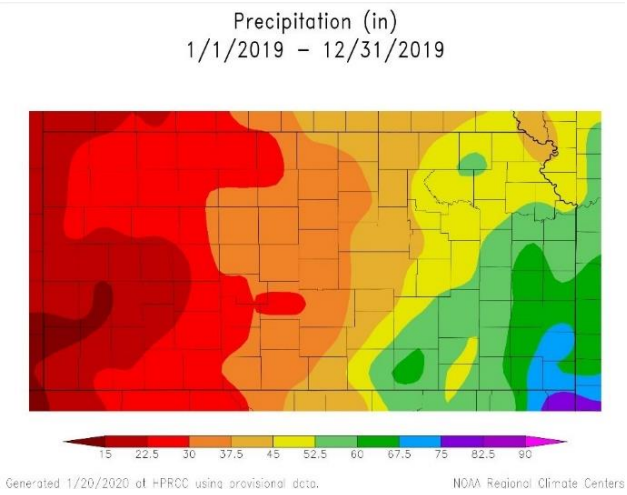
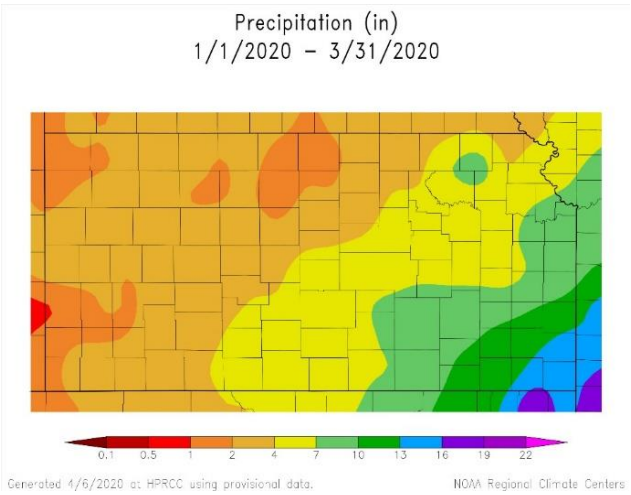
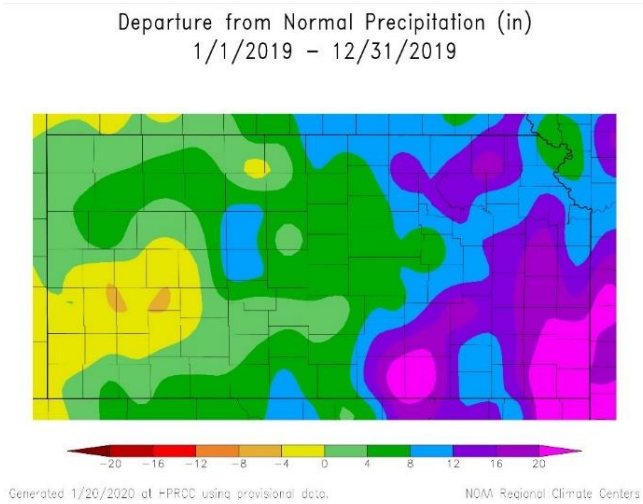
Kansas – Nebraska Big Blue River Compact Meeting 2020
Report by Kansas Department of Agriculture – Division of Water Resources
Topeka Field Office – Katherine A. Tietsort
May 13, 2020

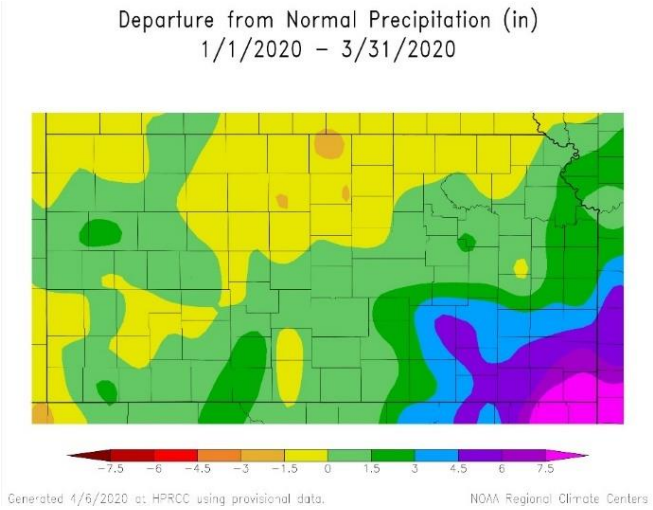
Climatic Conditions – Precipitation & Temperatures

The High Plains Regional Climate Center reported between 37.5 and 52.5 inches of precipitation for calendar year 2019 across the entire Big Blue and Little Blue River basin areas in Kansas, including most of their tributary basins, with just the far eastern Black Vermillion River basin receiving up to 60 inches. Precipitation was significantly above normal in 2019 and ranged from 8 to 20 inches greater than the normal precipitation. This year, the Basin has received 2 to 10 inches of precipitation, with Mill Creek receiving 2 to 4 inches so far this year. The Black Vermillion River received 4 to 10 inches through March 31, 2020. So far this year, we have seen slightly below normal conditions in the northern part of the Basin, with the far south portion receiving slightly above the normal precipitation this year.



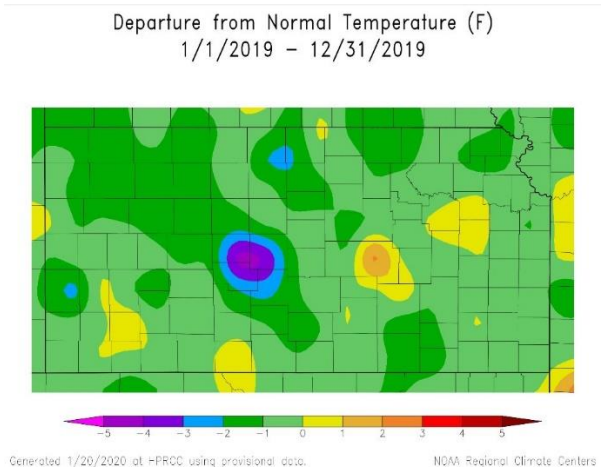


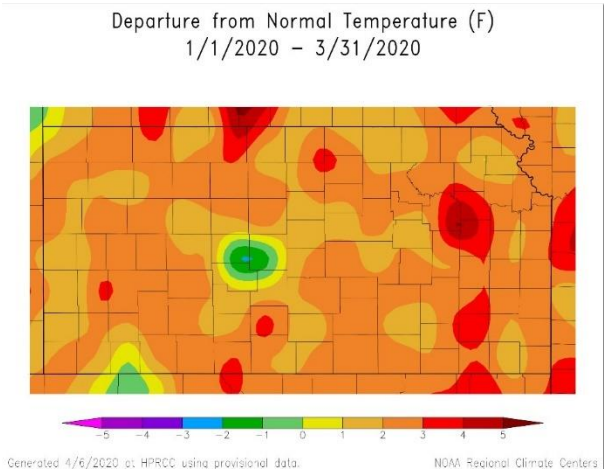


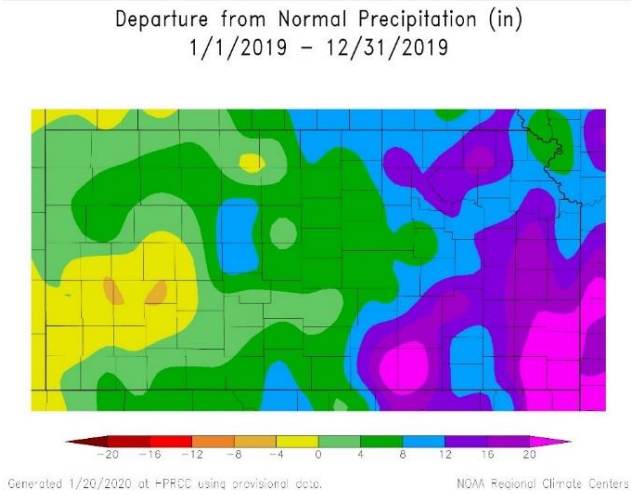


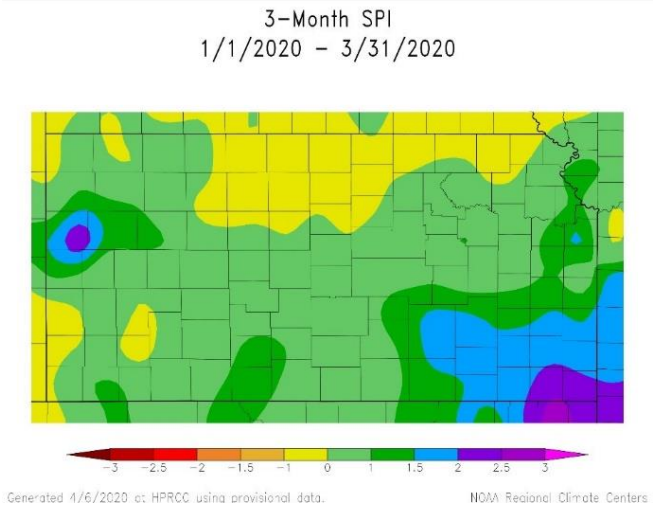
Temperatures for the calendar year 2019 remained generally normal to about 2 degrees cooler than normal in most of the Basin. So far this spring, temperatures have been trending slightly warmer, up to 3 degrees warmer than normal.

The Standardized Precipitation Index (SPI) (which is like the Palmer Drought Index (PDI) but considers only precipitation and not other factors) showed the wetter trend for 2019 and shows a more normal trend for this spring so far.









Streamflow and Administration within the Big Blue River Compact Basin

Statistics reflect 35 years of data at Marysville (Big Blue) and 61 years of data at Barnes (Little Blue).

The story of 2019 was really the flooding. Streamflow was higher than the median throughout the seasons in both locations for nearly the entire calendar year. Both locations returned to more normal flow values in 2020.

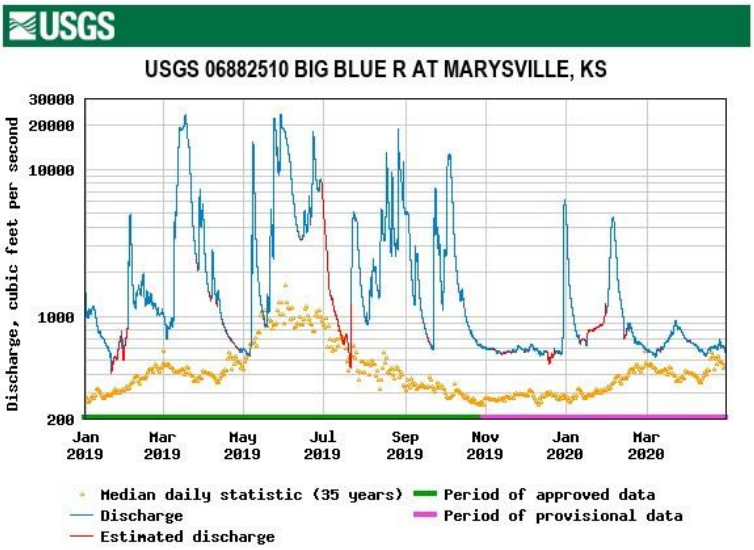
We did not trigger Minimum Desirable Streamflow (MDS) criteria within the Basin, and MDS administration of junior rights did not occur in either sub-basin in 2019, nor in 2020 to date.

Minimum Desirable Streamflow (cfs)

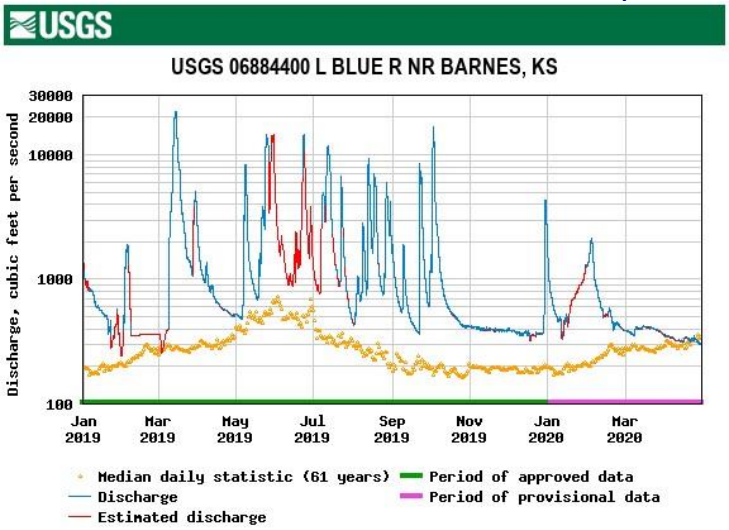
Watercourse	Month											
	J	F	M	A(a)	M(a)	J(a)	J	A	S	O	N	D
Big Blue												
Marysville	100	100	125	150	150(d)	150(d)	80	90	65	80	80	80
Little Blue												
Barnes	100	100	125	150	150(d)	150(d)	75	80	60	80	80	80

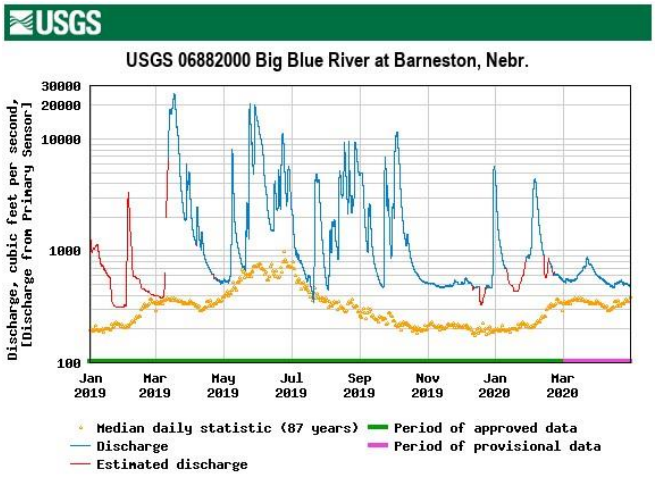
(d) Subject to the stateline flows contained in the Blue River Compact.

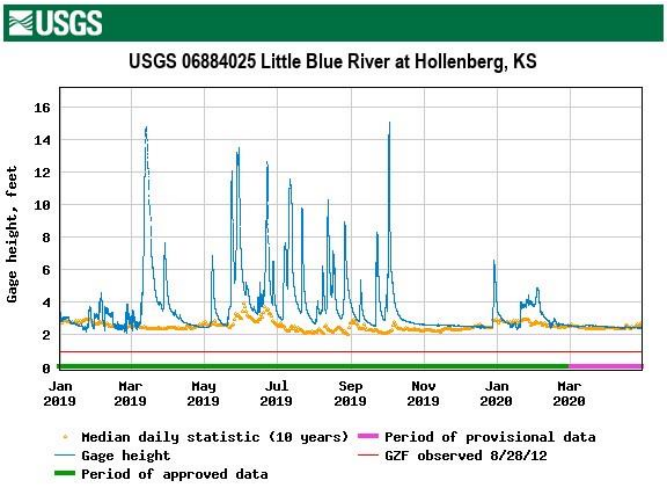
USGS 06882510 BIG BLUE R AT MARYSVILLE, KS



USGS 06884400 L BLUE R NR BARNES, KS







The compact gages at Barneston and Hollenberg reflected wetter conditions through most of the 2019 calendar year. For the period of 1/1/2020 through today, flows remained sufficient to avoid any administration in the Big Blue River, Little Blue River, Mill Creek, or Black Vermillion River basins, as stated above.

Administration Activities

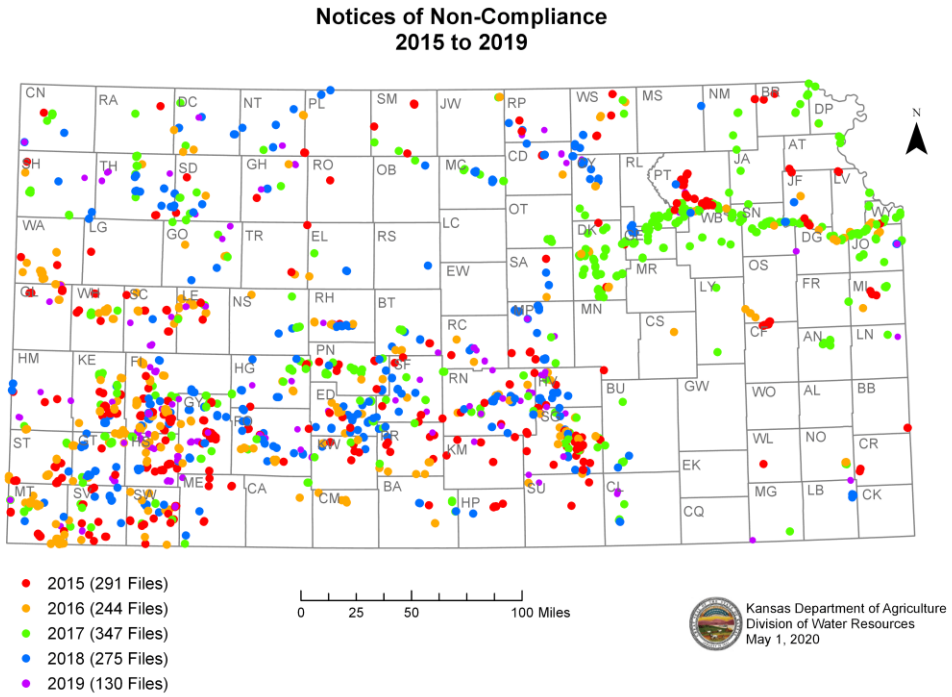
No administration occurred at all statewide in 2019, the first year in a long time.

In fact, particularly in eastern Kansas and within these basins, it was the opposite case. Record reservoir elevations occurred in the lower Kansas Basin projects and widespread flooding occurred in areas. The Kansas River Basin reservoirs are managed to the control point on the Missouri River at the USGS gage at Waverly, Missouri. When flows are greater than 80,000 cfs at that gage, reservoir releases in Kansas are lowered to minimum release. This occurred during most of 2019 and a series of deviations were put in place starting in May at the Waverly gage allowing for releases from Kansas River reservoirs that would not have been allowed under the control manual. The deviation flow values at Waverly ranged from 90,000 cfs to 180,000 cfs in various Phases and allowed releases when the reservoir elevations were in the upper 20% of the pool. The deviation stayed in place until 2020. We did get to normal pool in 2 of the 3 reservoirs but are now seeing pool levels climb again.

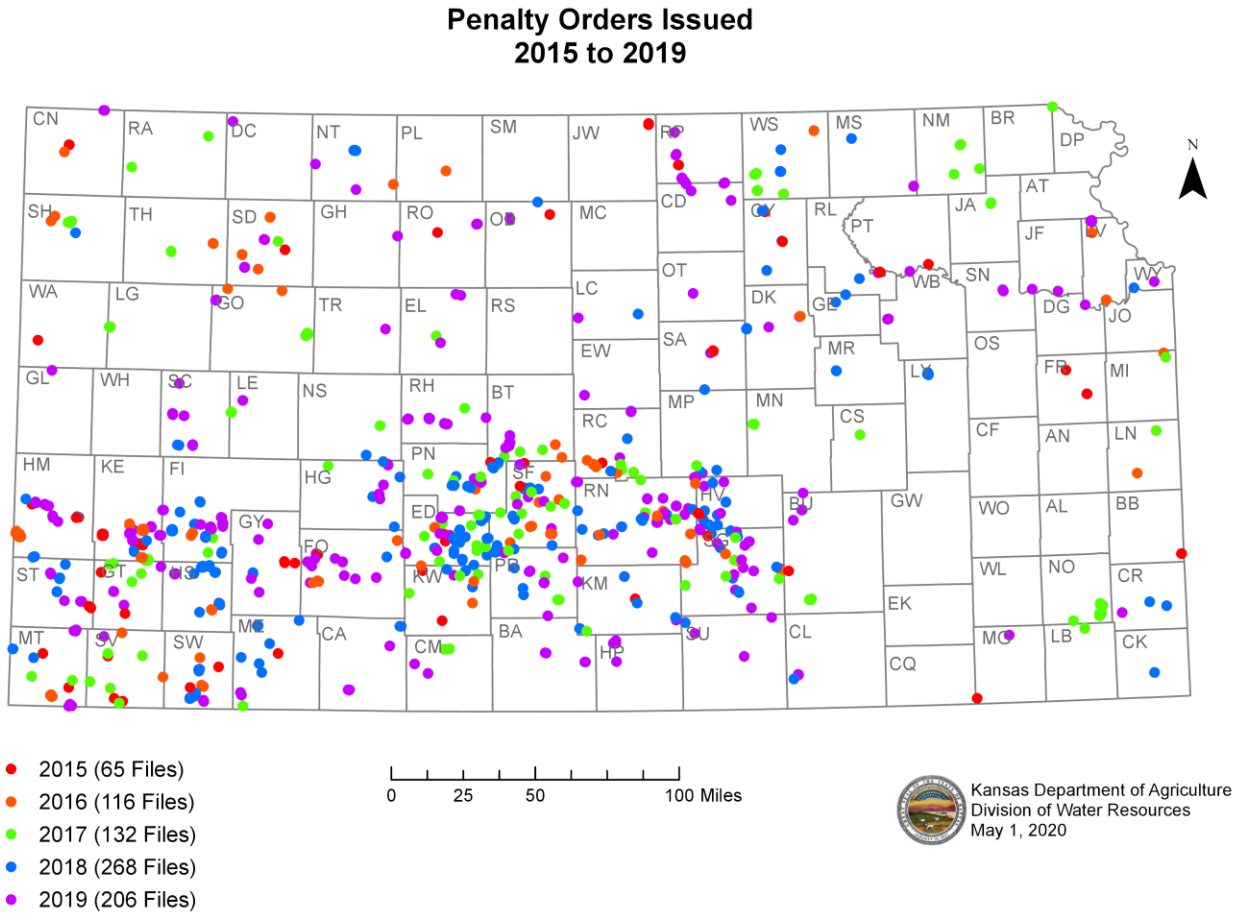
Previously, we reported on the Lower Republican River Stakeholder group working to establish a Special District. The bylaws were instituted, and the Board was put in place, but further progress has not been made. With significant flooding last year and recent COVID-19 issues that have largely been focused upon, the necessary legislation has not been put in place to authorize the District.

Compliance & Enforcement Activities

In 2019, the Division sent "*Notice of Non-Compliance/Cease & Desist Notice*" (NONC or NONC-CD) on 11 files in Eastern Kansas and 130 files state-wide. None of these were within the BBRC. In 2019, the Topeka Field Office issued 16 penalty orders and cease and desist orders. Of these, two (2) were in the BBRC. Both were civil penalties issued for overpumping, for $5000 each; to the same rural water district. State-wide, DWR issued 206 penalties.



So far for 2020, no NONC's, NONC-CD's or penalty orders have been issued in the BBRC area.



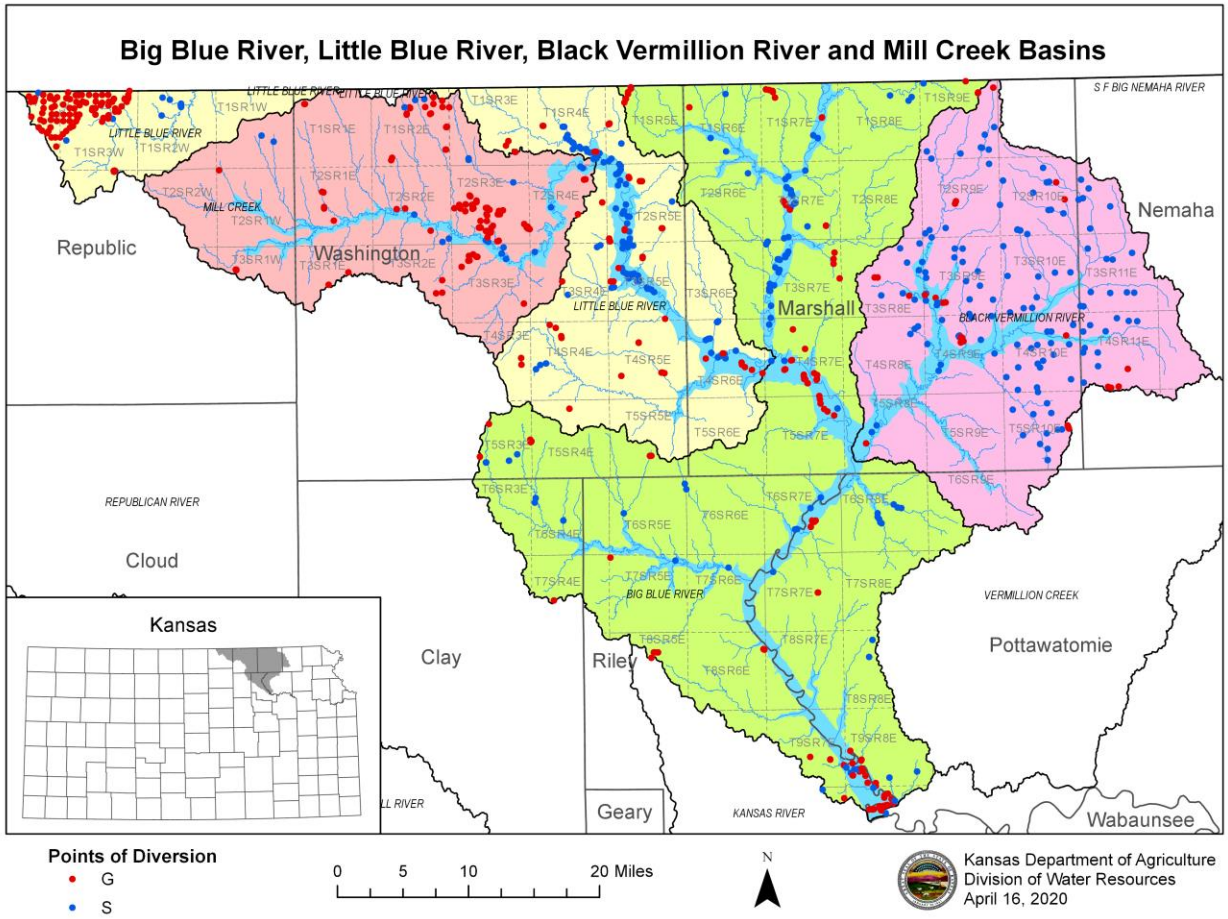
We reported last year that the Secretary of the Department of Agriculture instituted a paper filing fee of $20 per file for the required annual water use report; the fee was waived for those who filed online. KDA-DWR has collected a total of $39,567.00 in paper filing fees for for those who opted to file by paper and not use the online reporting system for the 2018 reports. So far in 2020, KDA-DWR has collected a total of $29,340.00 in paper fees for the 2019 reports.

KDA-DWR assessed a total of 274 civil penalties of $1,446,750.00 for the 2018 calendar year. The total received for the 2019 fiscal year was $411,450.00. The 2018 calendar year was a record year for the most penalties issued and the highest number of fines ever collected, and the total fine amount was greater than the toal fines assessed in the previous 14 years combined. KDA-DWR assessed a total of $400,000.00 in civil penalties for the 2019 calendar year. The total collected so far in penalties from the 2019 penalties assessed is $309,500.00. We allowed more settlement conferences in 2018; 228 of the 274 penalties went to conference, which is 83% of the total. We assessed fines at the settlement value in 2019 and had just 19 settlement conferences out of the 91 penalty orders, or 20%. We are all just reviewing our lists for 2019 use.

New Development

In 2019, KDA-DWR received 17 new applications (13 appropriations, 2 temporary, 2 term) for the BBRC basin. This number is the same as the 17 applications received in 2018 (14 appropriations, 2 temporary, 1 domestic) for the BBRC basin. For 2020 thus far, we have received 1 new application request for the BBRC basin (1 term).

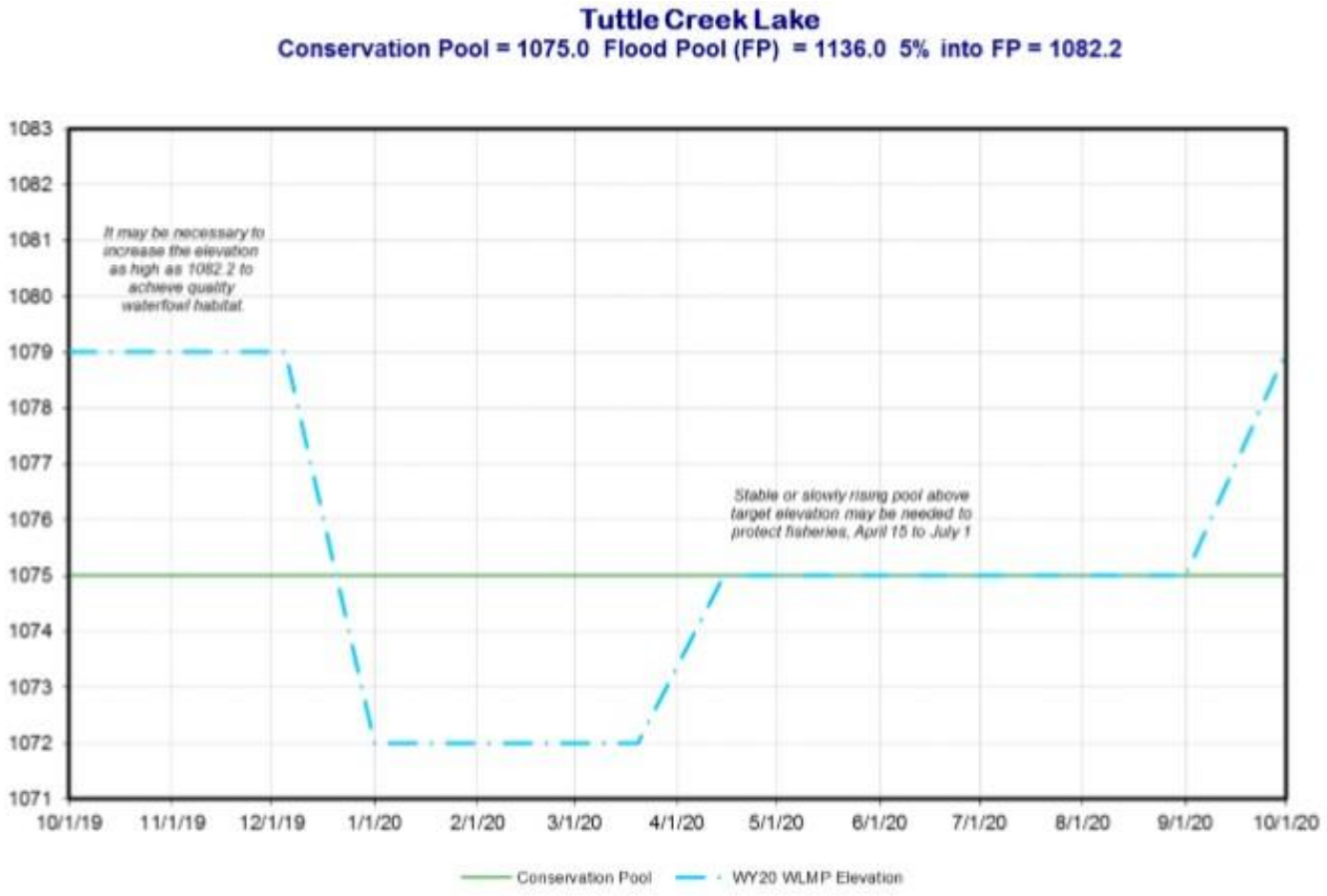
In 2019, KDA-DWR approved 12 applications (9 appropriations, 2 temporary, 2 term) for the BBRC basin. This number is lower than the 18 applications approved in 2018 (16 appropriations, 2 temporary) for the BBRC basin. For 2020 thus far, we have approved 1 application for the BBRC basin (1 term).



Statewide in 2019, 154 regular appropriations were processed, with 136 approved and 18 dismissed. There were 238 Term Permits filed with 234 approved and 4 dismissed. Finally, 428 temporary permits were filed and approved. Appropriation permits are generally required for long term uses. Term Permits cover projects that run 6 months or longer, but that do not go on indefinitely, and temporary permits are restricted to 4 million gallons and 6 months duration.

Tuttle Creek Reservoir

Lake Level Management plans were approved in fall of 2019. The plan again represents the identical plan submitted and approved over the last number of years now. The focus continues to be support of spawning fish and wildlife habitat. It has been noted that holding water above the multipurpose pool during the spawning and nursery periods has improved recruitment of some fish into the lake fishery. Additionally, storage of water in the flood control pool in late spring has been required due to the presence of threatened and endangered terns and plovers nesting on the Kansas River sandbars downstream from Tuttle Creek Lake.

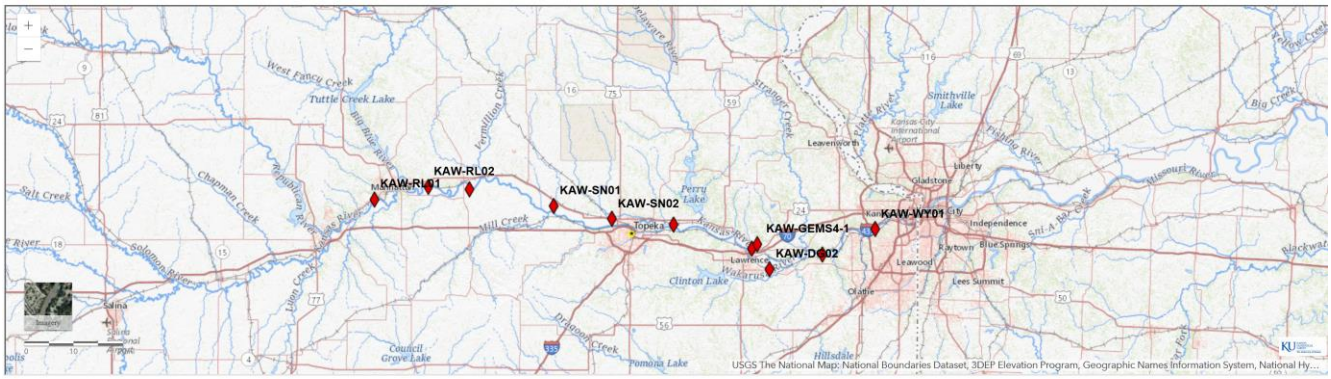


	Time	Elevation	Comment
TUTTLE CREEK LAKE	Oct 1 – Dec 5	1079-1082.2	Attract migrating waterfowl, achieve quality habitat
	Dec 5- Jan 1	1072	Reduce ice damage potential and provide water storage, then hold through Mar 20
	Mar 20 – Apr 15	1075	Rise to reach top of conservation pool and enhance boating then hold through Sep 1
	Apr 15 – July 1	1082.2 max	Evacuate flood water to enhance crappie population. Protect tern and plover nests on the Kansas River
	July 1 – Sep 1	1075	Maintain conservation pool to re-vegetate shoreline
	Sep 1 – Sep 30	1079	Rise to inundate wetland habitat and attract migrating waterfowl

Kansas River Basin Study

A significant study was initiated under the Water Vision in 2018 in the Kansas River Basin called the Kansas River Reservoirs Flood and Sediment Study. The goal of this study is to determine what actions are needed in the basin to extend the life of the reservoirs. The plan is to determine and then take steps to reduce flood risk and increase infrastructure benefits, improve sediment management, mitigate drought, improve water supply availability, restore essential ecosystems, and enhance water quality and recreation. Initially, the Kansas Geological Survey established a network of alluvial observation wells along the river. The wells are operated under the Kansas Index Well Program to provide continuously recorded water levels of the aquifer year-round.

Kansas River Index Well Network—Interactive Map



Kansas Geological Survey
Updated Oct. 10, 2018
Comments to webadmin@kgs.ku.edu
The URL is http://www.kgs.ku.edu/Hydro/KansasRiver/map.html

Other Topics

In 2019, the Topeka Field Office initiated an effort to begin scanning all our hard copy paper water right files in to the Docuware system, the official state archival system. We scan the files, page by page, index them into the Docuware system, quality control by reviewing every single page, one by one, for image clarity, completeness, etc., then provide the file back to the owner. The TFO is closing in on 50% of all our active files scanned, about 2500 of the ~4800 files in the territory. This has been a big initiative that all staff have worked on. We are hoping that we will be able to get another temporary staff member to help when the current scanning employee finishes all the allowed hours per position, so that we can finish this effort off over the next 12 to 18 months.

As part of the effort to go paperless, the TFO also pioneered an electronic process for all documentation, including field work documentation. All the documents we produce in our office, except for approvals of applications and changes, are processed electronically at this time. Additionally, we regularly accept most required forms, routine notifications, and monthly reporting electronically from most of our customers. We are working to implement an electronic application filing process next for new applications and change applications.

We were rewarded by these efforts during the restrictions of the COVID-19 pandemic. Our staff is working largely and, in many cases, entirely, from home, but with all newer files that have work to be done scanned, it has been business as usual for us.

The Topeka Field office moved locations in Topeka in March. The KDA Agricultural Lab moved into a new building adjacent to the headquarters building in Manhattan, Kansas, so we also left Forbes Field. The Topeka Field Office, now a group of 16 water specialists including the Commissioner and her staff, the Floodplain Unit, a structures engineer, and a watershed specialist are now located at 1131 SW Winding Road, Suite 400, Topeka, Kansas 66615. All our telephone numbers stayed the same. The building we are in also houses USDA- APHIS.